

FRESH MARKET TOMATO PRODUCTION IN MERCED COUNTY



Fresh market tomatoes (*Solanum lycopersicum*, also *Lycopersicon esculentum*) are the number two vegetable commodity, by farm-gate value, in Merced County, with a 2010 market value of around \$50,000,000. Yearly production ranges from about 8 to 12 million 25-lb boxes, grown on about 10,000 acres. Merced County is the second largest producer of fresh market tomatoes in the state, behind San Joaquin County. Fresno County also produces many acres of this crop, and in some years may exceed Merced production. The industry is centered in the Merced and Le Grand area, though fresh market tomatoes are grown in many areas of the county.

The Merced tomato industry began in the early 1900's when immigrants from northern Italy arrived and began growing tomatoes and other vegetables. By 1920 there was a small but healthy tomato growing and shipping industry. Many of the growers today are third and fourth generation descendants of the founding growers and shippers.

The fresh market tomato production year begins in early to mid March, when transplants are set in the fields. Semi-determinate, bush-type, hybrid varieties account for 100% of acreage. Popular varieties include Shady Lady, Quali-T 21 & 23, Quali-T 29 & 47, Sunbrite, Bobcat, Valley Cat, PS 015229, and MiRoma. Many of the new cultivars incorporate resistance to tomato spotted wilt virus. Field plantings are staggered from March through July for harvests from June through October. Drip and furrow irrigation methods are used, though drip is becoming more common. Tomatoes are a warm season crop that do best when the temperature is above 80° F, yet not so hot that bloom and fruit-set are adversely affected (>100°F). One of the reasons the industry has been so successful in the Merced area for so long is because of the climate. Hot summer days coupled with relatively cool nights promote high yields and good quality fruit.

Fresh market tomatoes differ from processing tomatoes mainly in variety selection, pest management, and harvest. Unlike processing tomatoes, which are grown to produce tomato paste, there is little tolerance to defects caused from insects and disease. As a result, fields are scouted regularly, and preventative measures are quickly taken to keep the fruit as free of blemishes as possible. Aphids, mites, and worms are the main insect pests; bacterial speck, *Phytophthora* root rots, corky root, and powdery mildew are the main diseases. The crop is hand harvested as mature greens, dumped into large trailers in the field, and taken to one of several packing sheds to be cleaned, sorted, and packed. The fields are rarely picked more than once during the harvest season. Because harvest is so labor intensive, production costs are much higher for fresh market tomatoes as compared to processing tomatoes. Typical production costs are \$4,000 to \$6,000 per acre, depending on yield. Harvest and packing costs account for about two-thirds of this total. Most of the tomato producers in the county have vertically integrated operations (grower-shipper-packer).

At the packing shed, the crop is washed, sorted for size and quality, and rapidly cooled after picking for best postharvest quality. Mature green fruit can be ripened right away, ripened slowly, or stored before going through the ripening process. The process is controlled through the use of temperature and ethylene gas. After packing, the crop is normally treated with 100 to 150 ppm ethylene for 1 – 2 days at 68 – 70° F before shipping to assure uniform ripening. The packed tomatoes are then put into trucks and continue ripening while being shipped to the markets. About 60% of California fresh market tomato production is shipped to areas in the western U.S., and about 15% is exported.